

Mem. Natn. Sci. Mus., Tokyo, (18), December 1, 1985

A New Lissorchiid Trematode from Zoarcid Fish in the Sea of Japan

By

Masaaki MACHIDA*

町田昌昭*: 能登半島沖のマユガシ属の魚から得られた
Lissorchiidae 吸虫の1新属新種

Under the Natural History Research Project of the Japanese Islands by the National Science Museum, Tokyo, a collection of marine fish parasites was made off the Noto Peninsula, the Sea of Japan during a period from September 26 to October 6, 1984. The present report deals with a new lissorchiid trematode, *Neolissorchis genge*, from a zoarcid fish, *Lycodes* sp.

The trematodes were washed in saline, fixed in alcohol-formalin-acetic acid (AFA) under coverslip pressure, stained with Heidenhain's hematoxylin and mounted in balsam. The specimens are deposited in the collection of the National Science Museum, Tokyo (NS MT).

I wish to express my cordial thanks to Mr. M. MAENO and other members of Takojima Fishermen's Co-operative Association, Ishikawa Prefecture, for providing me facilities to collect the fish parasites.

L i s s o r c h i i d a e

Neolissorchis genge gen. et sp. nov.

(Figs. 1-3)

Host. *Lycodes* sp. (Zoarcidae).

Site. Intestine.

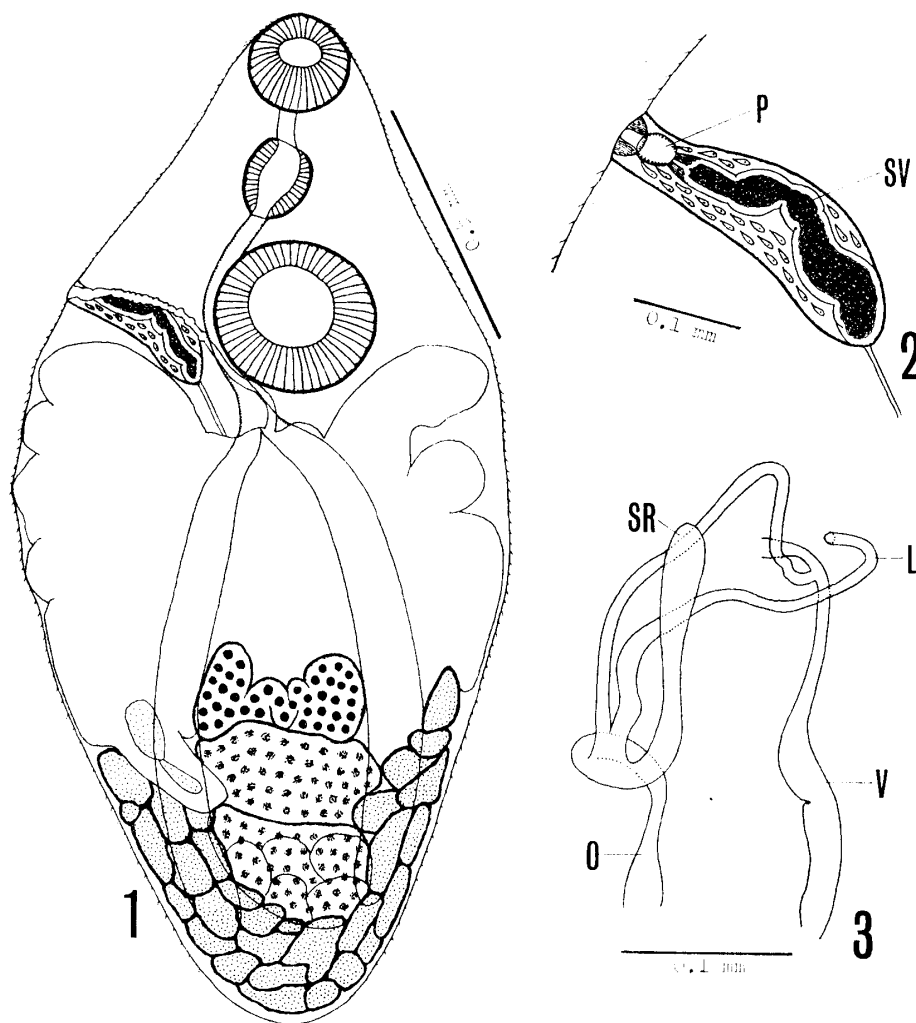
Locality. Off Noto Peninsula, the Sea of Japan.

Date. October 5, 1984.

Specimen No. NSMT-PI 3038.

Description. Based on 5 specimens. Body fusiform, 1.66-2.14 mm long by 0.87-0.95 mm wide. Cuticle spinose. Oral sucker terminal, oval, 168-194×204-230 μ m. Prepharynx short, 51-77 μ m long. Pharynx well-developed, barrel- or funnel-shaped, 148-158×117-138 μ m. Esophagus 325-447 μ m long, bifurcating posterior to acetabulum. Caeca terminating near posterior border of rear testis, some distance anterior to posterior extremity.

* Department of Zoology, National Science Museum, Tokyo
国立科学博物館 動物研究部



Figs. 1–3. *Neolissorthis genge* gen. et sp. nov. 1. Entire worm, ventral view. 2. Cirrus pouch, ventral view, metraterm being omitted. 3. Ovarian complex, ventral view. L, Laurer's canal; O, oviduct; P, pars prostatica; SR, seminal receptacle; SV, seminal vesicle; V, vitelline duct.

Acetabulum spherical, $280\text{--}306 \times 311\text{--}332\ \mu\text{m}$, near midlevel of anterior half of body. Sucker ratio 1 : 1.4–1.6.

Testes irregularly ovoid, a little broader than long, directly tandem; anterior testis $204\text{--}255 \times 230\text{--}342\ \mu\text{m}$ at junction between middle and posterior third of hindbody, posterior testis $230\text{--}332 \times 316\text{--}408\ \mu\text{m}$. Cirrus pouch approximately club-shaped, arcuate, $229\text{--}538 \times 95\text{--}108\ \mu\text{m}$, with its proximal end at postacetabular level or more posteriorly, containing tubular, slightly convoluted seminal vesicle $192\text{--}462\ \mu\text{m}$ long, oval pars prostatica $31\text{--}44 \times 26\text{--}31\ \mu\text{m}$ with prostatic cells, and short cirrus. Genital atrium absent. Genital pore on right or left body margin at midacetabular level. Of 5 specimens, three have a genital pore on the right, two have it on the left.

Ovary lobate, $178\text{--}316 \times 255\text{--}362\ \mu\text{m}$, just pretesticular. Seminal receptacle tubular, occasionally winding, containing no sperms. Laurer's canal slender, opening dorsally near anterior border of ovary. Vitelline follicles relatively large, arranged in V-shaped, from

ovarian level to posterior extremity all over caeca and posterior testis, and partly overlapping anterior testis. Uterus occupying almost all available space of hindbody; most loops running longitudinally and some extending backward midlevel of either testis, not reaching posterior extremity. Metraterm thin-walled, slender, parallel to cirrus pouch. Uterine eggs small, spindle-shaped, $27-35 \times 15-18 \mu\text{m}$, with unipolar filament. Excretory vesicle tubular, dividing into two main collecting vessels near midlevel of either testis; pore terminal.

Discussion. The present new genus differs from *Lissorchis* MAGATH, 1918 by having a long esophagus which bifurcates posterior to the acetabulum, a tubular seminal vesicle, uterus not reaching the posterior extremity, eggs with unipolar filament, and vitellaria in V-shaped at the rear of the body.

The subfamily Lissorchiinae contains only one genus *Lissorchis* and both have same characters in diagnosis, in which neither seminal receptacle nor Laurer's canal is observed (YAMAGUTI, 1971). However, BARNHART & POWELL (1979) described both organs to be present in their new species *L. kritskyi*. Though there are some differences between the present genus and the subfamily diagnosis of Lissorchiinae, I provisionally place the present genus in the subfamily Lissorchiinae. The specific name is originated from the Japanese name of the host.

Neolissorchis gen. nov.

Lissorchiidae, Lissorchiinae. Body fusiform, spined. Oral sucker terminal; prepharynx short; pharynx well-developed; esophagus long, bifurcating posterior to acetabulum; caeca terminating at posterior border of rear testis, some distance anterior to posterior extremity. Acetabulum larger than oral sucker, pre-equatorial. Testes double, contiguously tandem, in posterior half of hindbody. Cirrus pouch arcuate, extending posterior to acetabulum, containing tubular seminal vesicle, small pars prostatica with prostatic cells, and short cirrus. Genital atrium lacking. Genital pore on right or left body margin at acetabular level. Ovary lobate, immediately pretesticular. Seminal receptacle and Laurer's canal present. Uterus in hindbody, not reaching posterior extremity; metraterm parallel to cirrus pouch. Eggs small, with unipolar filament. Vitellaria V-shaped, from ovarian level to posterior extremity. Excretory vesicle tubular, with terminal pore. Intestinal parasites of marine teleosts.

Type species. *Neolissorchis genge* sp. nov.

要 約

能登半島沖の底曳網でとれたゲンゲ科マユガジ属の魚 *Lycodes* sp. の腸内から Lissorchiidae 科に属する吸虫が見つかった。本虫は体長 1.66-2.14 mm, 体幅 0.87-0.95 mm で、近縁の *Lissorchis* 属と比較して食道が長く腹吸盤の後方で分岐すること、貯精嚢が管状であること、子宮が体後端まで到達しないこと、虫卵の一極に極糸をもつこと、卵黄腺が V 字形で体後端にあることなどで相違する。新属新種 *Neolissorchis genge* として記載した。

References

- BARNHART, M.C., & E.C. POWELL, 1979. *Lissorchis kritskyi* sp. n. (Digenea: Lissorchiidae) from the river carpsucker *Carpiodes carpio* (RAFINESQUE). *Proc. helminth. Soc. Wash.*, 46: 47-51.
- MAGATH, T.B., 1918. The morphology and life history of a new trematode parasite, *Lissorchis fairporti* nov. gen., et nov. spec. from the buffalo fish, *Ictiobus*. *J. Parasit.*, 4: 58-69.
- YAMAGUTI, S., 1971. Synopsis of Digenetic Trematodes of Vertebrates. 1074 pp., 349 pls. Tokyo, Keigaku Publ.